

EGRET + BATSE Spectral Combined Fits

The EGRET data from the NaI calorimeter consist of 1-200 MeV binned spectra for time intervals of 33 seconds and 0-1, 1-3, 3-7, 7-23 sec following a BATSE burst trigger. Brenda Dingus (UWisc) and Rob Preece (UAH) and their corresponding grad students Magda Gonzalez and Yuki Kaneko are putting the EGRET data into the same FITS format as used by BATSE. The BATSE spectral fitting software is then being used to do a combined fit of the data which for many bursts extends from 20 keV to 10 MeV. The combined fit will be useful to better constrain the high energy power law and the peak energy.

Brenda Dingus and Magda Gonzalez are also calculating the upper limits > 30 MeV using the spark chamber tracking data for all GRBs within ~ 40 degrees of the EGRET z-axis. There is no evidence that the fluence > 30 MeV is much larger than the fluence in the BATSE energy range. This is in contrast to the burst 970417a observed by Milagro in which the burst emits 10-100 times the BATSE fluence at TeV energies (Atkins et al 2000 ApJ 533 119).